

519,685

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number
WO 2004/006916 A1

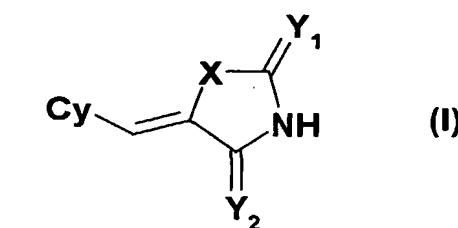
- (51) International Patent Classification⁷: **A61K 31/426**, 31/423, 31/428, 31/538, 31/4166, 31/4168, 31/422, A01N 1/02
- (21) International Application Number:
PCT/EP2003/050303
- (22) International Filing Date: 10 July 2003 (10.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
02100799.2 10 July 2002 (10.07.2002) EP
02102876.6 23 December 2002 (23.12.2002) EP
- (71) Applicant (for all designated States except US): APPLIED RESEARCH SYSTEMS ARS HOLDING NV [NL/NL]; Pietermaai 15, Curaçao (AN).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): DE LUCA, Giampiero [IT/CH]; Chemin de Conches 15B, 1231 Conches (CH).
- (74) Agent: HASSA, Juergen; Serono International SA, Intellectual Property Department, 12, Chemin des Aulx, 1228 Plan-les-Ouates (CH).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/006916 A1



(57) Abstract: The invention relates to a process for the improvement of spermatozoa fertilization activity, in particular for the increase of spermatozoa motility, by using a compound of formula (I). The invention further relates to uses and methods of compounds of formula (I) in infertility and assisted reproduction techniques (ART) as well as to a medium for storage and/or transportation of spermatozoa comprising said P13K inhibitors.